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SHORT REPORT

Anaconda AAA Bifurcated Endovascular Graft Migration: Customised Aortouniiliac Endograft Conversion

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Abstract We report a case of a 58-year-old-man with a 55-mm infrarenal aortic aneurysm treated with an Anaconda™ modular endograft. An error during a delivery-system pull-back manoeuvre caused the migration of the endograft. This was resolved with an aorto-uniiliac conversion and a femoro-femoral crossover bypass. Since a ready-made aorto-uniiliac system was not available, we customised one using a new Anaconda device, squeezing the contralateral gate and occluding this limb with coils.

Endograft acute migration during endovascular aneurysm repair (EVAR) is an unusual complication. Here we present a case of the new Anaconda™ endograft device migration treated with a customised aorto-uniiliac endograft conversion.

Case report

A 58-year-old-man was referred to our institute with a 55-mm infrarenal aortic aneurysm (AAA). His medical history included hypertension, diabetes mellitus, hypercholesterolaemia, morbid obesity, coronary stenting and three coronary bypass surgeries. On the basis of his medical history, the patient was considered a high risk for open surgery, and therefore EVAR was recommended. An Anaconda™ bifurcated device (Vascutek–Terumo, UK) was inserted through the right side and deployed just below the inferior renal artery. The contralateral and ipsilateral gates were cannulated and the left and the right limbs inserted and deployed. During the right limb delivery-system pull-back manoeuvre, the security anchor was incompletely detached, causing migration of the proximal body system, resulting in the collapse of the endograft main body into the aneurysm sac. Due to the limited space for performing a bifurcated repair, we opted to convert the modular bifurcated Anaconda device in an aorto-uniiliac endograft.

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A second device was then inserted through the right limb and deployed within the main body of the first device. The contralateral gate of the second graft remained undeployed inside the proximal part of the main body of the first device (Fig. 1). The right gate was cannulated and a new limb inserted and deployed inside the first one. To avoid a distal leak, the contralateral gate of the new endograft was squeezed with a Reliant balloon (Medtronic, Santa Rosa, CA, USA). Moreover, the left limb of the first endograft and the left common iliac artery were occluded with coils. A right-to-left femoro-femoral crossover bypass was performed using an 8-mm ringed-polytetrafluoroethylene graft. The completion angiogram revealed no endoleaks. The patient's postoperative course was complicated on day 2 by a sudden disruption of the right femoral anastomosis requiring urgent repair. He also presented with bilateral superficial groin wound dehiscence and infection that required long-term antibiotic therapy. The patient was subsequently discharged to home 3 weeks later. On 12 months' follow-up after the EVAR, the CT scan showed no leaks (Fig. 2).

Discussion

The Anaconda™ device is a trimodular stent graft with extraordinary flexibility. Its main feature is that the proximal stent can be collapsed and repositioned allowing precise positioning.

During the year prior to this report, a total of 11 Anaconda™ devices have been implanted in our department. Other authors have reported their initial experience with no complications in the 1-year follow-up.[1] In our series, we have seen two complications: (1) the present case and (2) a type I endoleak discovered in the follow-up that required two additional endovascular procedures.

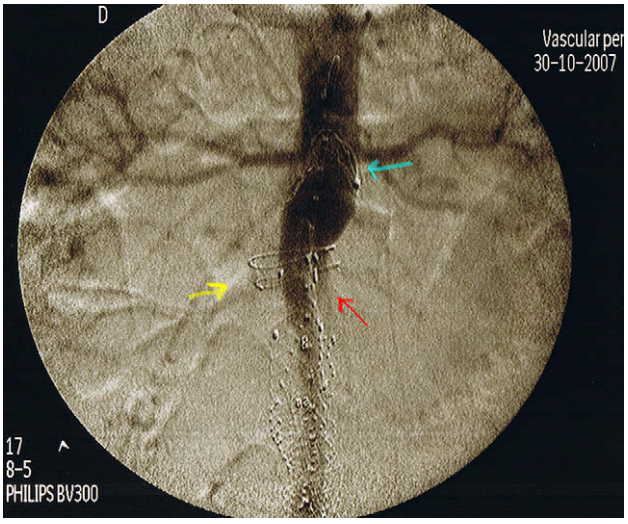

Figure 1 Intraoperative angiography: The yellow arrow shows the first device migrated into de aneurysm sac with the proximal stents completely expanded with a circular shape. The blue arrow shows the second graft and the characteristics saddle-shaped stents sealing the aneurysm neck. Red arrow points the contrast fill of the left gate prior to remodelling and coil embolisatión.

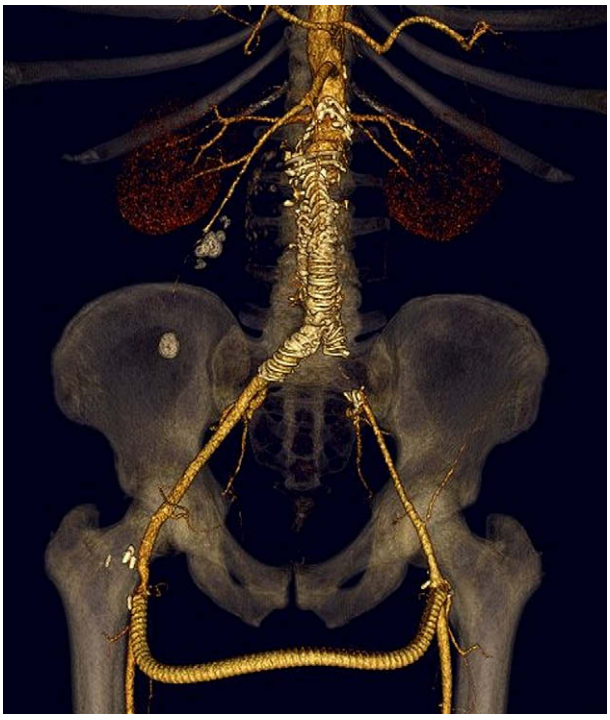

Figure 2 Follow up CT scan reconstruction: No leaks were observed. The femoro-femoral crossover by-pass is patent and both hypogastric arteries are preserved.

During our learning curve with the Anaconda endograft, the present case with straightforward aneurysm morphology was considered a good case to be repaired. This situation as well as the relative complexity of the device delivery process undoubtedly influenced the failure.

Acute migration of the endograft during EVAR is an unusual complication.

It usually leads to open surgery conversion or to aorto-uniiliac endograft.[2] In our case, due to limited space for deployment of a new bifurcated system, aorto-uniiliac conversion was the only bailout option, but since a ready-made system was unavailable we tailored one by remodelling the second graft into the migrated one and occluding the left limb of the first graft and the left common iliac artery.

A potential pitfall of this solution is that in case of modular disconnection of the contralateral limb of the first graft from the left gate (due to collapse and kinking of the first graft), blood could re-enter the aneurysm sac, but after a year of follow-up embolisation of the left limb seemed to be sufficient prevent this complication.

Conflict of Interest

None.

Funding

None.

References

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